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121 followed is especially appropriate for making sense of Melanesian societies, and perhaps other societies also. For the method to be consolidated, a second field study will be necessary, explicitly and systematically oriented towards communication systems, boundary systems, proxemics and the like, covering the communication of women, material objects and messages, and including at least some comparative perspective and some myth analysis. The present work, however, seems a necessary first step in plotting such new approaches to ethnography.

121 My work was much facilitated by a wealth of previous studies of the
114 Orokaiva,[4] of which the most valuable is still F. E. Williams' *Orokaiva Society* (1930). Re-study proved it to be a highly accurate work, focusing on the most challenging problems posed by the social system. Among these are the bilateral tendencies in the kinship system classified as patrilineal; the plant emblem groups; the relation of 'homicidal emblems' to initiation rituals and especially the subtleties of the value system, brilliantly handled in the chapter on 'Morality'.

A successor can fulfil various useful offices, some minor, some major. First, Williams' work can be used as a basis for a study of culture change. I have done this to some extent in an earlier work (Schwimmer 1969) and in the present work where the argument demanded it. Secondly, *Orokaiva Society* provides a composite picture of a number of closely related, yet by no means identical
[101] systems (Mountain Orokaiva, Aika, Yega, Binandere, etc.) In this re-study, I confined myself to Mountain Orokaiva, reserving for another occasion a survey of the diversities in degree of patrilineality, kinship terminology, ritual forms, leadership patterns and the like, all related to the ecological base and settlement history.

Thirdly, Williams' study of the Orokaiva was made early in his career. When reading his later works, we note analyses (on sex affiliation, 1932; on dual division, 1924, Ch. VIII, 1936 Chs. VI–IX, 1940: 32–5; on 'disease and its *treatment* 1940–2: 90–105; and on totemic groups, e.g. 1940) that would apply with minor variations to the Orokaiva, but are not developed in Williams' writings on that tribe. We need not suppose that in the Northern District Williams failed to observe what he saw and described in relation to Kerari or Elema. It is more likely that he was progressing steadily along a highly individual analytical path, leading him only gradually to perceptions which were theoretically far ahead of his times. In any case, in my analysis of Orokaiva plant emblem groups (Ch. X) my presentation is very close to Williams' work on the Elema, although it departs from that on the Orokaiva. Similarly, I have drawn on his writings on 'sex affiliation' among the Koiari and 'dual division' in the Gulf District, on disease at Lake Kutubu and so forth, thus bringing to bear the insights of Williams' maturity on Orokaiva material.

These are the minor tasks. The major one is to continue the search for system in New Guinea societies on the basis of these insights and of the theoretical discoveries of the last thirty years. Thus this book is in a sense a dialogue with Williams to which I contribute new data that seem relevant.

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subsistence shifting agriculture alone. This leaves hardly any margin for land unsuitable for cultivation, for bush land needed as a source of building materials etc., or for unequal distribution of land as between families.

We may divide the land occupied by Orokaiva into two broad sub-regions. The first is made up of the foothills themselves which have an 8 to 12 inch very dark brown top soil, rich in nitrogen and phosphorus. The fine-textured subsoils range from 10 to 22 inches in depth. This sub-region coincides approximately with the Saiho census division which had a population of 8,211 in 1966 giving a density of about 55 per sq. mile. The second sub-region, situated to the north and east of the first, consists of poorly drained but readily improvable plains. Here the population is very much sparser. Most village domains contain only a fraction of immediately utilisable good cultivation land and even this does not have the special fertility of the volcanic loam on the mountain slopes. The soils of Inoda, a village situated in this sub-region, have been discussed in much detail by Crocombe and Hogbin 1963, quoting the Commonwealth Scientific and Industrial Research Organisation (C.S.I.R.O. [1954]). This sub-region forms part of the Sohe-Popondetta census division which, as a whole, has a population density of about 20 per sq. mile. Villages are smaller and more dispersed.

The boundaries of what we may call the Orokaiva tribal area are probably best determined by the criteria used by the Papuans themselves, namely linguistic criteria. Orokaiva is part of the Binandere group of eight languages (see Wurm 1960) spoken in most of the more densely populated parts of the Northern District; of these languages, Orokaiva is spoken by the greatest number, but only about half the population in the Ovokaiva-Binandere area. The only language of this group for which a reasonably full description (grammar and dictionary) has been published is Binandere (Copland King 1927), a language spoken around the lower part of the Mambare and Gira rivers. Other languages of this group are: Orokaiva, Notu, Aiga, Huniara, Yema, Taindaware. While there are considerable vocabularly differences between these languages, there is a close resemblance in grammar and enough resemblance in vocabularly to make a very limited degree of intercommunication possible. (Chinnery and Beaver 1916 and an unpublished manuscript by Capell [n.d.]). We do not know much more about the Binandere group of languages except that it is a Papuan grouping (Grace 1968).

It seems to me that dialect divisions within the Orokaiva language area which have been noted at various times (Beaver 1916, Williams 1930) are rather minor. A fairly accurate idea of the boundaries of the Orokaiva language area may be obtained by identifying this area with the district administered by the Higaturu Local Government Council which covers the Saiho and most of the Sohe-Popondetta census divisions.

Williams (1930: 157–9) attempts to distinguish the Orokaiva language speakers from other tribal groupings by listing cultural differences (notably in dress and ornaments) but these are not pronounced and, under modern conditions, may be observed only on ceremonial occasions when headgear and bark-cloth are worn.

Prior to European contact, the normal mode of settlement was in hamlets containing 6 to 12 houses and surrounded by land used for shifting agriculture.

[TEXT CONTINUED ON PAGE 18]

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TABLE II/11

HOHORITA MALE ADULTS IN SKILLED OCCUPATIONS

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Occupation	*Resident*	*Non-Resident*	*Total*
Teacher	9	1	10
'Medical'	3	–	3
Driver	2	2	4
Shopkeeper	4	–	4
Other	2	2	4
Total	20	5	25

648 the Australian rulers, although they also know that so far the difference is not great.

177 Finally, broadcasting services and the messages transmitted by councillors have greatly increased their knowledge of the outside world. Through their transistor radios, they become aware of, and discuss, the affairs of the independent nations of Asia and Africa. They are thus beginning to feel part of the modern world.

5. *Field Locations*

101 I spent one year in the Northern District, travelling through it a good deal. My detailed data come mainly from three villages which I shall now describe briefly.[13]

Inonda. This was the first village I visited; I stayed there for eighteen days, returning later for a few brief periods. The village was previously reported on by
105 Crocombe and Hogbin, Krinks and Waddell. It lies eleven miles from Popondetta, on the road to Oro Bay, has seven dwelling houses and a population of forty-two. At the time of my visit, there was only one politically significant clan represented in the village, namely Andiriha, who had been driven from the foothills of Mount Lamington by the Sangara tribe some fifty years earlier. Inonda, like other Orokaiva villages, was laid out in an elongated rectangle, with the dwellings spaced at equal distances. Neat rows of palms, shrubs and floral borders interspersed with trees subdivided the central area between the houses so as to give each family a semi-private space. The village had an Anglican chapel, made out of a corrugated-iron storage shed, where a lay preacher gave services. There was also a corrugated-iron copra-drying plant, no longer in use. Just behind the village was a slab of concrete laid down by the army during the war, and now being utilised as the floor of a women's club house that was being built at the time.

Unlike the other villages I visited, Inonda is only partly Christianised, four of the households being pagan. Coffee gardens have been established only by the Christian families and the women's club, which is one of a number organised by the government for social development purposes, and is supported exclusively by the same families. Inonda was also unusual, at least in my experience, in having one leading family in control of virtually all forms of community organisation.

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Hohorita. My stay in Hohorita lasted for a month, and I made several return visits. This village lies thirteen miles from Popondetta on the road to Saiho, has forty-one dwelling houses and a population of 358. Hohorita and three contiguous hamlets are the home of the Sangara who survived the Mount Lamington disaster. The Sangara population was reduced by the eruption from some 3,000 to 195 people, who stayed together in the evacuation camp and later founded Hohorita, where the remnants of about a dozen clans may be found. By far the strongest clans in this village are those whose homes, at the time of the eruption, were at the outer edge of the devastation area and who were able to run away from the *nuée ardente* before the searing blast could reach them.

Hohorita, though built much earlier than Inonda (1957), was not beautified with the same care. The area between the two rows of houses was bare, except for some coconut and betelnut palms. The village was divided into two rectangles by a short row of houses. The front and back part were settled at different times and different clans were dominant. When I was working in the front half I would meet hardly anyone from the back half and vice versa. A feast house had been built in both the front and the back sections of the village. The feasts had been held just a few weeks before my arrival, to entertain neighbouring villages. Originally a combined feast had been planned, but disagreement had prevented it. There was no chapel in the village, but a mission station just next to it, with a white mission teacher, a mission school and several Papuan teachers who were in charge of church services. This was a contrast with Inonda, which was several miles removed from a school and even further from a mission. There was a woman's club with a small club house, but again this was supported by only a small minority.

Hohorita was entirely Christianised, in the sense that everyone had been baptised. A number of the older men had been educated in a mission station prior to the eruption and had become mission teachers while evacuated. When coffee became a lucrative cash crop – more lucrative than teaching – many of them had retired to the village. As a result the leadership pattern differed sharply from Inonda. About twenty men in Hohorita had held down occupations requiring some European skills, and these men tended to work out together the everyday and long-range decisions required in the village. The leading personality was, at that time, a well-educated man, who for years had been the chairman of the Higaturu Local Government Council. In Hohorita virtually everyone was growing coffee. Some men worked in the plantations nearby.

Ecologically, Inonda is characteristic of the alluvial plains region to the east Lamington foothills. Before the eruption, the concentration of population was entirely on the higher reaches of the tribal domain as rainfall and fertility are higher there. The lower portion of the territory, away from the mountain, was used for hunting. But the government discouraged reoccupation of the higher land, for fear of further eruptions. Hohorita is lower down than the old villages. The more elevated land is used a little less than before, and often for coffee rather than subsistence crops. The topsoil is volcanic loam; the rainfall is probably between 120 and 150 inches per annum. Population density is 135 per sq. mile. This is a little less than is usual on the Mount Lamington foothills, but prior to the eruption the population must have been very dense indeed.

Sivepe. I stayed in Sivepe for about nine months, from September 1966

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101 105 until June 1967. Previous intensive studies had been made there by Rimoldi and Waddell. Sivepe is twenty-four miles from Popondetta, but this distance represents a drive of two to four hours in a Landrover, according to the time of year. The village lies on a side road, serving a population of some 2,000 living in the valley of the Sasembata (or Hembe) and Sohu rivers, two tributaries of the Kumusi. This side road runs from the main road in a south-easterly direction as far as Kendata. The Sasembata-Sohu valley combines all the most favourable ecological conditions: heavy rainfall, deep volcanic loam, excellent drainage, easy contours. The first time I drove to Sivepe was during the dry season. Turning from the main road, I found myself on a slightly improved grass track, with villages built right across it, the sweet aroma of coffee trees (which, incidentally is strongly disliked by the Orokaiva) pervading the atmosphere, lush vegetation, and a life-style on which the Europeans had apparently made much less impact.

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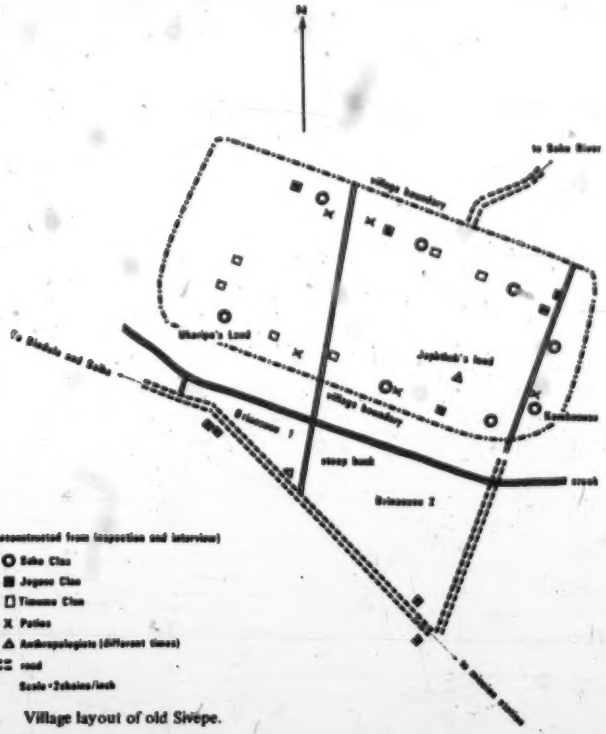

Fig. 6. Village layout of old Sivepe.

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so formidable and irresistible as to leave open no other option. For many Orokaiva, this became a certainty only as a result of what to us would seem an entirely unconnected event, namely the Mount Lamington eruption of 1951. The effect of this eruption on Orokaiva ideology is worth a brief analysis here because it provides evidence that the 'new day' ideology is still essentially based on the traditional exchange-oriented Orokaiva philosophy. We find that the cataclysm was universally ascribed by the Orokaiva to the breakdown in an exchange relationship with some *dema*, and that many believed this *dema* to have been the Christian God. On the basis of this theory, the Orokaiva were led to search for more effective mediating links between themselves and these powers, so as to avoid similar misfortunes in the future. Development activity and baptism were the most important of the mediating elements in which they placed their faith.

As I have already published a full survey of Orokaiva explanations of the eruption (Schwimmer 1969), my summary here will be brief. In 1966, during visits to Inonda, Hohorita and Sivepe, I interviewed a number of survivors about the explanation of the disaster given by people *at the time it occurred*. All informants were agreed that at that time the increasing rumbling in the mountain, the tremors, the smoke issuing from the crater, the showers of ash, the emission of stones and fiery particles, and finally the Peléan eruption, were all ascribed to the anger[6] of Sumbiripa, the god of the mountain, though there were varying explanations of the probable cause of that anger. These statements tallied with published evidence from two clergymen, both present in the Northern District at the time of the eruption, who refer to the people's fear of the anger of Sumbiripa (Tomlin 1951, Benson 1955).

Evidence of a different kind comes from two anthropologists (Belshaw 1951, Keesing 1953) both of whom interviewed survivors a few weeks after the disaster. Belshaw summarises Orokaiva explanations as follows:

> Some people said that this was God's visitation because they had disobeyed the Bishop's instructions to build new churches. Others said that God had punished them because they had not helped the Allies sufficiently during the war and because some of them had betrayed missionaries to the Japanese. (Others again mentioned) lack of co-operation in Mission and Government plans for development. (1951: 242)

Keesing agrees with this summary, adding that the eruption resulted in 'strong feelings of insecurity and even of guilt in their retrospective look at the pre-eruption way of life'.

Many resident Europeans, including the Bishop of New Guinea, the Most Rev. David Hand, confirmed Belshaw's and Keesing's account, but the Bishop told me that the mission has since discouraged the Orokaiva from thinking that the Christian God harboured anger against them and expressed it with such indiscriminate violence.[7] Hence this explanation is no longer heard. People nowadays believe that the eruption was caused by the anger of Sumbiripa or, if they wish to display a modern scientific attitude, they will repeat what they have been told about vulcanology.

Explanations based on the anger of Sumbiripa, the government and the Christian God resemble each other in that they are all based on the concept of a

group.(1) Group planting seems to have been the general pattern in other parts of the Territory too. In the Western District in particular, the Resident Magistrate initiated schemes for cash crop plantations being owned and operated by each village as a whole. Profits were to be used for projects which would be of benefit to the village community (P.A.R. 1913-14:12). About fifty such plantations were established under the scheme. 657 241 [423] [434]

During this post-war drive (and probably in 1920) a government officer assembled the people of the nine villages(2) of the northern branch of the Asigi tribe and instructed them to choose a site and plant an area of coconuts for the nine villages as a whole.(3) 657 245

A central site was chosen near Ongoho on land belonging to the Akute'undi sub-clan (most of the members of which lived in Ongoho village), and about 500 coconuts were planted as a community project by the men of the nine villages.(4) They were to be used exclusively for copra making (there were ample coconut trees in the villages for domestic use) and work and profits were to be shared equally among the able-bodied men. Small plots of rubber and citrus trees had been established at Ongoho under the same scheme a year or two earlier. The citrus was intended to be used primarily as a latex coagulant for the rubber, and only secondarily as a cash crop. 245 [249] [433]

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(1) In some instances in the coastal villages of the Northern District each individual planted his own trees, but all villagers planted in one "village" block on the land of one man or of one descent group.

(2) Ongoho, Hongorsta, Ivisusu, Sowai, Weki, Ondahari, Oere, Girigirita and Heherita. Sowai and Weki were later abandoned and today their populations live together at a new village named Sotokoiari. Likewise Girigirita and Heherita have amalgamated and moved to a new site. The new village is called Girigirita. [361] [103]

(3) Data in this section of the report was collected by interview only in the villages concerned during April-May 1963. [124] [101]

(4) The annual reports show that in 1921 there were 518 coconut trees over five years old and 1,287 under five years old in the Asigi area. The nine villages listed above comprise about half of the total Asigi population. The 518 mature trees were probably those planted in the villages. Trees in the community block which did not survive were not replaced, and as the ground has not been cleared since the second world war, many have died. There were 198 trees still standing in 1963.

Foreword

121 The New Guinea Research Unit's current program includes a comparative study of changing agricultural and social systems among a number of groups of the Orokaiva people of Papua's Northern District. A wide variety of schemes for the development of agricultural land has been introduced there, especially over the last decade. As groups to be studied, samples were chosen which currently differ in their systems of land tenure, social organization and management of labour resources - to name the more striking general areas of difference without mention of factors which may be constant.

101 For the present report fieldwork was conducted at Sivepe village (also known as Sive) during December 1962 and January, February and early March 1963 with a brief visit again in May 1963. The basic subject of our study was a sample of 50 villagers.

128 114 Work in the field was shared by Burau, Ferraris and Rimoldi. Of the results which are presented below, the substance of the observations on types of subsistence crops and associated methods of cultivation and on the techniques currently used in the husbandry and production of livestock and of cash-crops at Sivepe[1] is the contribution of Ferraris. He also prepared the preliminary drafts of maps from which he did most of the basic calculations of sizes of landholdings and areas under cultivation.

124 Among other tasks in the field, Burau had the role of interpreter. He also clarified many aspects of the relation of the Orokaiva to their land and contributed points to most parts of the report.

128 Our thanks are due to the people of Sivepe for their hospitality and co-operation, to Mr and Mrs C.E. Searle, who in many ways provided valuable assistance, to Mr and Mrs R. Cheetham, to the staff of the Department of District Administration, the Native Lands Commission and of the Anglican Mission at Agenahambo and Sasembata, who all gave generous help. For information and discussion we are indebted to these people, to Mr H. Plant, Mr R. Spinks and especially to Mr G. Hogbin, Mr P. Krinks and Mr E. Waddell.

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[1] See Chapter 2, Sections b. and c. and Chapter 4, Section c.

Chapter 1

Introduction

There is no local consensus as to which peoples in the Northern District should be regarded as Orokaiva (see Williams 1930:1-4), but all the peoples concerned recognize that they have a relatively uniform culture and speak mutually intelligible dialects of one language. The people in this culture area number at least 25,000.

Although they did not have an inclusive name for themselves until 'Orokaiva' was introduced by Europeans, they generally drew the distinctions among themselves between river people, salt water people, and inland people (umo-ke, eva'embo and periho). There are wide-spread traditional beliefs dealing with the common origins not only of these different categories of people, but also of mutually hostile tribes, the largest political units among them, and of the various dialectal groupings and local cultural variants, which correspond to a limited extent with the political division into tribes.[1]

Our study of Sivepe was designed to complement a study of land, work and productivity at Inonda village (Crocombe and Hogbin 1963) and other related studies in the area (Dakeyne 1965; Howlett 1965; Crocombe 1964; and Cheetham). We attempt no general comparison with the results of the other studies at this stage.

Because land tenure problems were central to our investigations, the groups at Inonda and Sivepe were chosen from villages in the Higaturu Native Local Government Council area which is occupied by about 12,000 of the Orokaiva. In 1956 this council adopted a scheme to register individual title to parcels of land which would be allocated by land-holding groups to individual members for use as cash-crop gardens. The scheme had encountered several

[1] See Williams 1930:155; W.47, 140, 148; O.40, 411, 486, 598, 640; Folktales Nos.45, 54. W.47,... O.40,... Folktales, etc., refer to the notation used by Williams in his fieldnotes, see Bibliography, p.121.

423 obstacles,[1] but the policy of registering villagers' land was being implemented at the time of our surveys.

121 Inonda and Sivepe alike had experience with their council's registration scheme. The principal reason for working with these villages in particular is that they may be regarded as typical of two extremes among local communities in the council area. The following conspicuous variation was taken into account, in view of the need to investigate the relation of local conditions and problems to economic change in general and to the council's tenure scheme in particular.

161 Sivepe is located in the Saiho Census Division which has an overall population density of 75 persons per square mile, but there are local concentrations of much higher density, for example, 237 persons per square mile at Sivepe;[2] the density of the Saiho Division is the highest in the Northern District and the third highest among the rural census divisions in Papua,[3] but does not approach the densities found in several places in the New Guinea Highlands.[4] The density of the Buna Census Division where Inonda is situated is about 8 persons per square mile, the lowest among the Orokaiva.

133 The average size of Saiho villages is about 175 persons, compared with an average of 100 in the Buna Census Division. The
132 Sivepe people live on the highly fertile slopes of Mt Lamington, receiving an annual rainfall of about 160 inches; Inonda's land is lower, flatter and comparatively poor and receives about 95
131 inches a year. Inonda is 11 miles from Popondetta on the road to Oro Bay and Sivepe is roughly twice as far from the township, along a road leading inland.

101 For brevity we will speak of the 'mountain Orokaiva' as an
[133] alternative to 'Mount Lamington Orokaiva'. (See Keesing 1951:5-6.)
[162] This group, we believe, was the largest socio-political unit, the

[TEXT CONTINUED ON PAGE 6]

[1] For an account of the developments of the registration scheme see Crocombe and Hogbin 1963:89-93.

[2] Population is over 8,000 and there are 8.6 acres available per head in the census division. The personal opinion of at least some local officers has been that local densities of 200, and more, persons per square mile are not at all rare in the division.

[3] After Kaipi, Gulf District and Kubuna, Milne Bay District.

[4] However, Keesing (1951:2) maintained that these Orokaiva on the Mt Lamington slopes achieved 'perhaps the densest settlement patterns of any of the shifting "dry" cultivators in the New Guinea area'.

[10] [133] [162] tribe, which included Sivepe. It occupied the volcanic slopes under fairly uniform and distinctive ecological conditions. The mountain Orokaiva now include roughly the 8,000 people in the closely-settled Saiho Census Division areas, that is, the people who have been called 'Wasida' or 'Periho'. They also include the members of the few adjacent villages who are the only 'Sangara' people surviving the 1951 eruption of the volcano.

[62] [36] Belshaw (1951:2) reported that among the mountain Orokaiva until 1951 'the residential group...consisted of a number of separated hamlets.... Hamlets grouped themselves together under a common name, such as Wasita 1, Isivita 1, Isivita 2 etc.... Each hamlet group, or "village" in administrative parlance, was separated geographically from its neighbouring hamlet group'. The two 'villages', Isivita 1 and 2, had comprised 19 named 'hamlets' and represented the Isivita 'native district' which, Plant[1] (1951: Appendix 4) says was joined with the Sasembata (8 hamlets), Koropata, Wasita, Awala, Soroputa, Sairopi, Mumuni and Wairopi districts[2] to form the Periho tribe. This 'closely approximates to' what Williams called the Wasida tribe.

[162] Shortly before the eruption of Mt Lamington in 1951, Sivepe, Binduta, Nahihita, Pusahambo, Korinasusu and Heherita[3] were grouped under the name of Awala 2 and had a total population of 250,[4] compared with the range of 150 to 400 which Belshaw (1951:2) attributes to 'hamlet groups' in the area. There is a radical difference in size between the small hamlet described by Belshaw and the characteristic nucleated village of post-eruption years (excluding interim evacuation 'camps'). Nevertheless, we hereafter refer to both as a 'village' when not quoting. This does not

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1 Plant uses the term 'village group' for Belshaw's 'hamlet group' or 'village'. Williams (1930:131) refers to Belshaw's 'hamlet' sometimes as a 'village' and sometimes as a 'village group'.

2 He earlier (1951:3) omitted Mumuni and Wairopi - see p.31. On Map 1 see Hururuta for Mumuni District, and Ombisusu-Ajeka area for Wairopi District; the Sairopi people are about 4 miles south of the Mumuni.

3 The last 3 'hamlets' were not re-formed after the eruption; another which was established about this time took the name Awala No.2.

4 In a sample of 50 nearby hamlets in other groups in the Saiho Census Division the average hamlet size was 36 persons as against 41 in this group. Note also that in 1923 the Awala hamlets (including those in Awala 1) may have numbered 15 (Williams:W.83).

Appendix A

The identification of 'the tribe'

101 The various accounts which observers give of the Orokaiva living on the slopes and plains north-west of the crater of Mt Lamington differ explicitly or implicitly as to both the composition of the largest political unit and the proper local name for it. Williams (1925:406; 1930:5, 136) refers to them as the Wasida (Waseta according to the local dialect) or Jegasi Sarahu tribe and distinguishes them from the Sangara, Aiga and other Orokaiva tribes on the grounds that these are the largest units with a common name, a common territory and enemies, and a distinctive dialect. The actual classification follows a less certain one made earlier by Chinnery and Beaver (1915:160).

Reay (1953:110) also speaks of the 'Wasida or Jegase Sarata tribe' and Chinnery and Beaver (1915:161) of the 'Jegasi-Sarau (Wasida)' but these writers do not indicate the specific area to which the name is to refer. Although in one context Williams (1925:406) locates the tribe 'on the plain immediately north-west of Mt Lamington', elsewhere he greatly extends the tribal boundaries (see pp.29-30).

It may be noted that the Jegase and Sarahu, whose names in combination have been used to designate either a 'locality group', 'tribe' or 'sub-tribe' (Williams 1925:417); 1930:150, 310; W.10; Reay 1953:110) are merely 2 of the clans in the tribe.[1] The same is true of the Ato-Pekuma group which Williams refers to as one of the 'fairly distinct halves' of the Sangara tribe.[2] Chinnery and

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[1] See Williams W.10, 42. The clans were not confined to the villages known as 'Wasida' (W.69, 83); see also Plant (1951: Appendix 3) where he notes that Jegase men were present in both Wasida and Awala villages in 1950.

[2] Plant (1951: Appendix 4) insists that the Ato-Pekuma are members of the Periho tribe not of the Sangara.

101 Beaver (1915: Appendices 3 and 4) speak of the Jegasa-Sarua (or Jigasa or Jegasa-Sarana) and of the Atibi Guma (or Atibeguma) as tribes but are inconsistent in locating them in relation to their neighbours.

Since 'Wasida' people were allied with Sangara groups in fighting their neighbours to the north (the Divinikovari, Togahau, etc.), Williams' only grounds for treating the 'Wasida' as members of the same tribe as the Hunjovarehu and as opposed to other neighbours, including the Sangara[1] is the precedent sent by Chinnery and Beaver (1915:48) who claimed that their map of linguistic areas 'will show with tolerable clearness the various groups of tribes'; although Williams claims that 'the ultimate bases of the tribal division are political and economic' (1925:406), he states that his classification is based on their list of linguistic differences (1930:5) and follows them 1930:150 and end map; 0.9) in placing Divinikovari in the 'Wasida' area; he himself adds (ibid.) that this language classification 'apparently does not coincide with the tribal classification' since the Divinikovari (i.e., Hunjovarehu) and 'Wasida' are of different tribes.

Belshaw (1951:2) and Plant (1951: Appendix 4) prefer 'Periho' to 'Wasida' as a tribal name. The local people agree at least that 'Wasida' is inaccurate because it is really the name of a village[2] and may refer only to its inhabitants, or sometimes also to its immediate neighbours - just as Sivepe villagers may be called Avala people after the nearby village of that name; this identification with a named group of villages or 'hamlet group' seems to be weaker than it was even a decade ago.

[829] On the other hand 'Periho' (alternatively 'Berepo') is a general term for 'bush', that is inland peoples,[3] used by those closer to the coast (usually to the east) and is applied by them indiscriminantly to several tribes - at times to the Sangara (Williams 1930:6; 0.410). The Sivepe people are sometimes spoken of as the 'Kombu Periho' (kombu, from or of, a mountain or height);[4] they prefer to use the term 'Kombu Sangara' when referring to themselves and other Orokaiva from the slopes of Mt Lamington.

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[1] Plant (1951: Appendix 4) also argues against this.

[2] Williams was aware of this (W.10) although he usually chose to retain the European-introduced usage, sometimes referring thus, as with 'Jegasi-Sarahu', to the tribe as he saw it and sometimes to the group of villages in the tribe.

[825] [3] One meaning of 'periho' is a small wild pig from the bush.

[4] This is applicable a priori to the Sangara.

[p. 106 is blank]

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

Preface

The New Guinea Research Unit has undertaken several studies among the Orokaiva as part of a programme of research into systems of land tenure and their relationship to economic development.[1] The present enquiry was designed to extend the information gained from these studies through an analysis of the organisation of work and the patterns of exchange among communities practising both subsistence gardening and cash cropping. 121

More specifically, it was concerned to ascertain whether the requirements of the subsistence sector of the economy impose limitations on the expansion of activities in the monetary sector and, conversely, whether participation in the monetary sector involves restrictions on subsistence activities. Within this framework attention was directed to observing the extent of participation in commercial activities, how cash is used, whether periodic peaks of labour occur in the two sectors and whether there are common factors in the backgrounds of people cultivating cash crops. Brief consideration was also given to other phenomena influencing the relationship between the two sectors: the physical environment, the social system, the system of land tenure, the types of cash crops grown and the nature of the people's contacts with innovating agencies (principally the Administration and the Anglican mission).

Method of investigation

Simultaneous enquiries were conducted in two villages, Sivepe and Inonda, in the Higaturu Local Government Council area of the Northern District. Both had been the subject of earlier studies conducted under the auspices of the New Guinea Research Unit and much background information was available. Census data, an inventory of material possessions (including trees and livestock) and details of cultivated areas were collected. Daily records of all activities and transactions for the same individuals were entered on two schedules: (i) work organisation and (ii) acquisition and disposal of goods, cash and services. Diaries were kept to record [101] 125

[1] See New Guinea Research Bulletin, numbers 2, 4, 6, 11, 13, 16 and 17.

interviews, expressed opinions, and other relevant data. Daily meteorological observations were made in Sivepe village.

The survey was conducted over three separate periods during 1964-65: 3 February to 3 May, 20 July to 30 August,[1] and 9 November to 3 January. These periods were selected, on the basis of available rainfall data and information in earlier Northern District studies, to cover supposed seasonal variations in weather and hence variations in the intensity of different social and economic activities.[2] Due to the intensive nature of the enquiry, it proved difficult to extend day-to-day investigation beyond two months.

In addition, the researchers spent some time in the Northern District and Port Moresby collecting demographic and economic statistics, information on marketing facilities and the policies and activities of the external agencies operating in Popondetta sub-district. This information was designed to place the selected villages in a regional perspective.

The gathering of field data was shared equally between the authors, with Waddell working in Sivepe village and Krinks in Inonda; each is therefore responsible for the sections specifically dealing with his respective village. Joint responsibility is assumed for Part I but the preambles and discussions in Parts II and III and the whole of Part IV are attributable to Waddell.

Acknowledgments

The study was made possible by a generous grant from the Rural Credits Fund of the Reserve Bank of Australia. In the execution of it the authors owe their principal debt to the residents of Sivepe and Inonda villages for their patience and co-operation over a period of more than seven months when they were exposed to often seemingly indiscreet daily observation and questioning. Vivid memories are retained of their hospitality and friendship. Amongst them Mr Stephen Oriri was pre-eminent. The important role played by our Orokaiva assistants, Messrs Kephas Gibobo, Walter Sivure and Nigel Tiriembo, must also be acknowledged.

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[1] In the case of Inonda, no data were collected in the tenth week of the first period, and the second period was from 27 July to 6 September.

[2] It is appreciated that this is an arbitrary basis if one considers the concept of a year to be valid only in terms of seasonality of climate. The various facets of social and economic activities might operate on cycles of different and varying lengths, as evidenced by the 'pig cycles' of the New Guinea highlands.

Preface

125 In this study, carried out between February and April 1963, seven groups of adult male Orokaiva were tested using a culture-
(101) fair test of cognitive ability. There were 20 men in each group, making a total sample of 140.

153 Differences were found between some of the groups; one village obtained significantly higher test results than the other groups and another significantly lower test scores than all others except one.

Some of the total samples were divided into three groups according to productivity or ownership of cash crop trees. There was found to be a significant difference between groups. Those who were most productive tended to have the higher test scores.

128 A principal components factor analysis revealed three factors. Tentative identification suggests a memory factor, a gestalt factor and a less certain third factor.

122 Gratitude is expressed to the New Guinea Research Unit of the School of Pacific Studies, Australian National University, for the financial support which covered field expenses and the cost of travel to Papua.

114 Special thanks are due to Mr Cromwell Burau of the staff of the Unit whose company, assistance and help matched with his special skills made the field work so profitable and enjoyable.

Gratitude is also expressed to Mr I.G. Ord, Chief Psychologist of the Public Service Commission in Port Moresby, for his interest and encouragement in this project. It was his initial research that developed the test and made this project possible.

[p.4 is blank]

FOREWORD

101 [619] In the central part of the Northern District of Papua there is a concentration of approximately 26,000 people who are known collectively as the Orokaiva. The term Orokaiva came into use some years after European contact, and before that time the Orokaiva did not recognize themselves as a single group, nor did they all interact for any common purpose. Although they do not claim common ancestry, the various sub-groups possess a relatively homogeneous cultural heritage. The Orokaiva speak several dialects which are mutually intelligible and belong to a common language.(1)

241 241 423 657 During the last ten years there has been considerable development of commercial agriculture within the area. Many people have planted cash crops on land held under customary tenure; some villages have planted communal blocks on land set aside by the rightholding clans; the Higaturu Local Government Council (which serves most of the southern part of the Orokaiva culture area) has instituted a scheme for the allocation of cash crop lands to individuals, and for the registration of the land with the Council; some Orokaiva have taken up agricultural leases of small, family holdings on government land, and they are provided with capital, extension services and registered land titles; others again have entered the plantation economy (none as entrepreneurs as yet, but many as workers on European plantations in the area); and at Beporo (on the coast) the people have embarked on a new experiment involving the cutting of clan land into rectangular blocks, allocation by ballot, and the planting of cash crops by families.

121 The aim of the Unit's research is to determine which of these systems has been or promises to be most productive (in the economic sense) per man, per unit of capital and per acre of land; which of them is best suited to the introduction of

(1) The term Orokaiva has no precise connotation but is here used in its widest sense to include such culturally related groups as the Notu, Binandere, Aiga and Sangara. The word is often used in a more restricted sense to refer to those people (predominantly speakers of the Kombu-Sangara dialects) who are served by the Higaturu Local Government Council.

new crops and techniques of production; and which is best adapted to the emerging patterns of social and work organization. It is also hoped to obtain information on the factors which influence the peoples' preferences for one or another of the systems of land tenure and work organization.

It is appreciated that no two human groups are strictly comparable, and that there are cultural, geographical and economic differences between different parts of the Orokaiva area. On the other hand, there is a sufficient degree of homogeneity to allow some useful comparisons to be made between those who follow each of the various "roads" to economic change.

This paper contains the results of the first study undertaken. It was carried out in the Higaturu Local Government Council area at the village of Inonda, which is one of the small, widely dispersed Orokaiva villages which are typical of the flat eastern portion of the area. A second study within the Council area has recently been completed at the village of Sivepe, which is cooler, more hilly and more fertile than Inonda, and typifies the larger, more populous villages of the closely settled western area.(1) The results of research in other parts of the Orokaiva area will be published in the coming months.

We wish to record our gratitude to the people of Inonda for their generous co-operation, to Mr. Cromwell Burau for interpreting not only the language but also the culture of the Orokaiva people for us, to officers of the departments of Native Affairs and Agriculture for advice and assistance, and to Dr. D.G. Bettison and Mr. M. Rimoldi for assistance in revision of the final draft. We also gratefully acknowledge the assistance of the Rural Credits Development Fund of the Reserve Bank of Australia.

(1) Population density in the Saiho census division (which includes Sivepe) is 72.9 persons per square mile, which is the highest for the Higaturu Council area. Density in the Buna census division (which includes Inonda) is 7.7 persons per square mile, which is the lowest in the Council area.

Four Orokaiva cash croppers

R.G. Crocombe

121 The four entrepreneurs dealt with in this paper have established themselves by cash-cropping and have subsequently expanded into retail trading. These brief case studies seek to identify some of the factors which may facilitate the emergence of entrepreneurs and some of the inhibiting factors that restrict their success and future development. Where applicable, comparisons are made with villagers of two Orokaiva villages previously studied: Inonda (Crocombe and Hogbin 1963) and Sivepe (Rimoldi 1966).

Introduction

438 Before European contact there was some trading in ornaments, lime, pottery and woodenware among the Orokaiva, but nobody subsisted exclusively or even principally from their production or marketing. With the advent of Europeans the Orokaiva became 177 familiar with the full-time entrepreneur who earned his living by 402 selling wares produced by others, by providing services such as 438 transport or the recruiting of labour, or by producing cash crops using hired labour. There are few Europeans in private enterprise in the area who do not engage in all three classes of enterprise.

The advent of the entrepreneur resulted in significant changes in the Orokaiva way of life. New goods were made available and opportunities for paid employment were created. During the past 402 two generations most Orokaiva men have had some direct contact 438 with commercial enterprise, both as customers and as employees, but until recently few have had the capital or training to engage in the entrepreneurial roles themselves.

Entrepreneurial activity (using the term to include trading and any regular income-earning activity which involves the employment of persons outside one's nuclear family) is a recent phenomenon among the Orokaiva.

101 Field work for this study was carried out in spare time during 114 1962-65, as a sideline to other studies, by the writer, assisted 126 by Mr Cromwell Burau and Mr Edric Eupu. Information was collected on land and food gardens, cash crops, trading, processing, transport, other property, income, work patterns and community leadership.

Work patterns

Records of time spent in various tasks was kept by A for ten weeks, and by B and C for twenty weeks.[1] The results are summarised in Table 6. Records were also maintained for their families and these plus those for the entrepreneurs themselves are summarised in Table 7.

These tables show some marked differences between the work patterns of the entrepreneurs and those of villagers. The entrepreneurs spend less time on subsistence gardening than the villagers spend (5.7 as against 11.5 hours respectively), much less time in wage employment than villagers (nil as against 6.9), more than twenty times more in cash-cropping and trading (19.5 compared with 0.7), only a fraction of the time acquitting traditional social obligations (1.0 as against 8.7) but considerably more in community activities as officers of co-operatives, local government, church bodies and other public agencies (7.6 as against 0.5). The same trends are apparent, though not so marked in degree, where the entrepreneurs' families are included (Table 7).

Time spent on social obligations is kept to a bare minimum. This is facilitated to some extent by the fact that all the entrepreneurs live out of sight of the village houses. Non-conformity would be more difficult if they were living right in the village. During the twenty weeks' survey of B's family, for example, they took only one day off for each of two deaths in the village. Had they lived in the village they would have been involved for many days. In another instance which occurred before this study began, a classificatory brother of B's wife died in Inonda, just over the river from where he was living on his coffee block. After two days' brief formal participation in the mourning he removed to his Hohota house and worked on his cocoa there. Two days after the three weeks' mourning period at Inonda finished he returned to live at the coffee block. Had he remained at the coffee block during the mourning he could hardly have continued to work full-time on his cash crops. The Inonda villagers, by contrast, left cash-cropping entirely during this period.

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[1] The periods recorded were: A and his family ten weeks from 14 June to 23 August 1963; for B, twenty weeks from 1 September 1962 to 18 January 1963 and for C, five and a half weeks from 22 December 1965 to 29 January 1966. No records were made of D's work patterns. Watches and forms for recording work patterns were issued to A's eldest son, B's son and to C. For the first week either the writer, Mr Hogbin or Mr Burau lived with the people maintaining the records, but the period of our residence is not included above. One of us or Mr Eupu made visits to collect the records and discuss problems every few days.

Twelve Orokaiva traders

W.J. Oostermeyer
and
Joanne Gray

Introduction

443 This is a study of twelve Orokaiva entrepreneurs who have
121 engaged in retail trading with varying degrees of success.[1] With only two exceptions, each owns a cash crop also. All except one are accessible by road from Popondetta. Although the sample is reasonably representative of Orokaiva entrepreneurs, quite different patterns may emerge among the few more isolated Orokaiva entrepreneurs or among the non-Orokaiva entrepreneurs in other parts of the district.

121 Each subject will be signified by an alphabetic letter according
128 to the relative success of his store. The names of subjects can be made available for the purposes of further research.

Information on two subject, I and K, is incomplete and possibly inaccurate in some details. Both were away from home at the time, and the questions were answered by close relatives.

124 Language was a limiting factor. English was used with those who had an adequate command of it, but in a number of cases it was necessary to use an interpreter. Some meaning is always lost when communicating through an intermediary, and some entrepreneurs were reluctant to discuss some personal details with an interpreter. The evidence of this report is not substantial enough to permit definite conclusions, and those proffered must be regarded as tentative.

444 Group I comprises four traders who were not operating their
463 stores at the time of the survey. Group II comprises another four whose stores had an average monthly turnover of less than $50.00.
472 Group III comprises those with a turnover in excess of $50 a month.

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[1] The data in this paper were collected by W. Oostermeyer between December 1965 and February 1966. The material was written up by Mrs Joanne Gray.

[101]

for short periods as indentured labourers on the newly-established European plantations or on the wharves of Port Moresby or Samarai. Most men sampled the novelty for a short time but quickly returned to the village; some showed little interest in the wider life introduced by the white men but a few were greatly influenced and spent years away from home in paid employment such as the Papuan Constabulary.

SOCIAL STRUCTURE

The Yega constitute a social and political unit and regard themselves as separate and distinct from the similar groups around them, even though all speak mutually understandable dialects of the same language. Each of these groups may therefore be termed a parish. Before the enforced abandonment of warfare early this century, these parishes lived in a situation of constant enmity and changing military alliances. In the absence of effective natural barriers on the plain, each group concentrated upon the production of its food supplies as close as possible to its home villages; tracts of forest which served as hunting areas and as reservoirs of wild food and building materials also served as 'no man's lands' surrounding the territory of each parish group. As hunting rights to these forest areas were obtained by daring individuals who ventured far into them, near the swidden areas of neighbouring groups, it is not surprising that such

[P-5-B]

19: Schwimmer E-5 (1966-1970) 1979 OJ23 Orokaiva OJ23

NOTES

The data presented here were gathered in the Northern Province of Papua New Guinea in summer 1970 with the help of a research grant from the Canada Council. The paper was first presented at a seminar at the Department of Anthropology, University of Chicago. I thank faculty and students at that seminar for their comments, which have led to clarifications of the text.

[1] This article does not discuss what I believe semiotic anthropology to be and what is its relation to French structuralism. The reader is referred to Schwimmer 1977.

[2] It was suggested to me that 'translation rules' may be what Peirce called 'motivations'. Upon reflection, I would suggest that all the constitutive rules of ritualised prestations are concerned with motivations. For instance, taros displayed on a platform at a wedding could be regarded as motivated signs because they are conspicuously part of an 'institution'. If we need a semiotic analogy for 'translation rules', we might say they specify the relation between expression form and expression content in Hjelmslev's sense (1963), where the prestation as message is the expression form and the sentiment immanent in the prestation is the expression content.

[3] MacCormack (1975) rightly remarked on the gap in my monograph (Schwimmer 1973) in respect of the Orokaiva's own rules about reciprocity. There was no reason to expect that he should have been aware that I presented a paper about these rules (Schwimmer 1970). The present article incorporates the main data of that paper, as well as of a later paper presented in Paris in 1974, on the occasion of a conference of French and Canadian ethnographers at the Musée des Arts Populaires.

[4] Two tribes neighbouring Orokaiva have myths concerning figures closely resembling Javaite Poromo, but far from being simple moral tales, these are elaborate myth cycles whose heroes, Wezis for the Ai'i and Ine for the Omie, are said to be the principal exemplars for the 'big man' system in those tribes. Data on these myth cycles were gathered by two Toronto graduate students, namely T. N. Barker for the Ai'i and M. Rohatynskyj for the Omie.

[5] See for instance Fortune (1935) for Manus and Meggitt (1967: 1971) for Mae Enga.

[6] The story is in F. E. Williams's Notebooks now stored in the government archives at Port Moresby and the property of the government of Papua New Guinea. Cf. Notebook W 56 for 1923, quoted in Schwimmer 1973: 140.

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21: Belshaw E-5 (1951) 1951 OJ23 Orokaiva OJ23
Mount Lamington

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SOCIAL CONSEQUENCES OF THE MOUNT LAMINGTON ERUPTION[1]

By CYRIL S. BELSHAW

THE eruption of Mount Lamington in the Northern Division of Papua in January, 1951, was accompanied by the immediate and total destruction of Government Station and Anglican Mission Station and the death of about 4,000 people. About 5,000 natives were evacuated from the blast perimeter to refugee camps at Oro Bay and Wairope; the Wairope camp was destroyed by floods a few days later and moved to Ilimo on the Kokoda Road. The villages of over 1,500 of the survivors were either destroyed or considered to be unsafe for habitation. In addition to these people those who had their gardens near the rivers which were fed from the Lamington slopes saw them destroyed by floods, while others on the Managalasi (southern) slopes of the volcano, not directly affected by blast, had gardens ruined by volcanic dust. This article is concerned principally with the survivors directly affected by the blast, that is those people living between Popondetta and Wairope who either had their homes and gardens destroyed or who are acting as hosts to such refugees, and who may be described as the Periho section of the Orokaiva people.

Such a sudden and devastating experience is a shock, not only to the physical and mental systems of the people who suffer it, but to the whole fabric of society. It will be many years before all the consequences can be clearly defined: in the meantime this article may serve as a tentative analysis and in some measure a historical record.

According to European eye-witnesses now in the area, the people were disturbed but not unduly frightened during the five days between the first signs of eruption and the devastating blast. The night before the blast, when the sky was darkened and tremors were felt, large numbers visited missionaries and government officers

[1] This paper is based on a two weeks visit to the area during April and May, 1951. I wish to thank His Honour the Administrator of Papua and New Guinea for making the visit possible; also the re-settlement staff, all of whom were so generous with hospitality and information.

[p. 241]

21: Belshaw E-5 (1951) 1951 QJ23 Orokaiva QJ23
Mount Lamington

Before the eruption, a new type of village had been established in the Kokoda sub-district, consisting of a large village square of neatly clipped grass, with houses arranged in a single row along three sides of it. Although such villages have a monotonous regularity and lack of individual character, Europeans think of them as being æsthetically attractive, and they appeal to the administrative officer's sense of the fitness of uniformity in a well-ordered community. Attempts to introduce such villages in the Higaturu sub-district had largely failed, and the standard of housing was much lower. Further the people of this area tended to live in small clan-hamlets and resisted propaganda for them to come together into larger village groups. After the eruption, however, the general desire for new things, the sense of guilt at having resisted such innovations before, and a feeling of insecurity combined to make most of the people reconsider their earlier decisions. Although the move was not quite universal, by far the greater proportion of people decided to rebuild their homes in large village units situated close to existing or proposed jeep roads, and on administrative advice decided to follow the Kokoda village plan with substantially improved housing. Such a move raises numerous social problems.

The actual decision as to who should live together in a village group was by and large easy to make. Mr. Plant's enquiry, referred to earlier, showed that individual patrilineal clans are often segments of a maximal lineage, the other segments of which live in different areas, and this finding accords with Williams' material. But in a given hamlet there would be two or more clans, not segments of the same lineage; and a number of hamlets occupying neighbouring ground would be considered together as a single village-group. Sometimes the village-groups were combined as a large area-group. Thus we have the hamlets Pengipe, Isivita, Huworituru and Bosiseta combining as Isivita No. 1 village; Egaturu, Tambori, Koropata and Kiorata as Tambori village; and Kakita, Hamamuta, Pija and Popondota as Popondota village; and the village-groups of Isivita No. 1, Tambori and Popondota, together with separate hamlets of Barewaturu and Kombeturu constitute the area-group of Isivita No. 1. Just how far these groupings result from administrative practice we cannot tell, but it is fairly certain that they represent genuinely-felt units. This does not, however, necessarily apply to the combination of the area-groups into tribal groups. Though the people we are considering appear to be one in language and custom, and to regard neighbouring groups as somewhat different, they are vague as to an over-all group name. Williams calls this group the Wasida tribe; Plant considers the correct name to be Puriho. Although I think Plant is more correct than Williams on this point, it seems to me that the people themselves do not attach much importance to such a name.

The village-group was taken by the people as the new unit of residence. The earlier hamlets would take a side or section of a side of the village square, each clan building its houses contiguously. This meant that the residential group increased in size from units of 20 to 100, to units of 125 to 400. Further, the village-groups were much closer together, sometimes now being in sight of each other along the

PREFACE

The following report presents data designed to be used in "A Comparative Study of Cultural Change and Stability in Displaced Communities," a project directed by H. G. Barnett. The report follows closely a list of topics specified as variables in the study. In a preliminary statement on the project, Professor Barnett (n.d.) states the reasons why the Orokaiva, living on the slopes of Mount Lamington, were included in the project. In 1951, Mount Lamington erupted, some 4,000 people were killed, and the survivors were resettled under close governmental supervision. This resettlement, as a consequence of a natural disaster, makes the Orokaiva case comparable to the other 11 cases included in Professor Barnett's study. The focus of our attention must therefore be the social and other cultural consequences of this government-sponsored resettlement.

I should at once note certain differences between this Orokaiva case and most of the others included in the study. Mount Lamington forms the centre of a rather populous district which is segmented into very small units socially and politically, but which forms a definite unity in cultural respects. (See Map I.) Differences in language, social structure, political and economic organization and material culture, in a wide area North of Mount Lamington, and included in the Popondetta, Soho Popondetta and Saiho divisions of the Northern District, are so small as to be almost insignificant. Only one of the refugee camps established immediately after the eruption was outside this culture area, and its occupants were shifted back to the Orokaiva district within a few weeks. From that point onwards, people were no longer separated from their culture but only from their land. As resettlement proceeded, even separation from traditional land holdings was soon terminated, so that the typical "resettled" village, though in a different spot from the pre-eruption village, still had access to the same land holdings.

In these circumstances, many of the traumatic experiences which are the subject of the other case studies in this project are not replicated in the Orokaiva case. There is no question, however, about the serious social consequences both of the eruption and of the large-scale government intervention that followed. To trace these consequences at the present time is no easy task. As all the Orokaiva returned to their own land a number of years ago, a great part of this report is an historical reconstruction and the Orokaiva are neither devoted nor accurate historians. Most happenings are covered over in their memory just as the jungle rapidly covers over past cultivations and past settlements. Some songs, some myths, and the harrowing personal experiences remain.

broader view of the social consequences of the eruption, and therefore included a third village, Hohorita, which lies at the centre of the area most deeply affected by the calamity. Sivepe, lying West of the volcano, escaped the full blast of the explosion; Inonda, to the East, was not directly affected at all, but Hohorita is a village made up of the survivors from Sangara villages situated in the blast area. Hohorita, as well as Kiorota which I visited briefly, has a far larger population than Orokaiva villages normally contain; these people were brought together, as a result of government organisation immediately after the eruption, from more than a dozen of the destroyed villages, comprise more than a dozen clans and constitute a new type of residential unit the origin of which may be directly traced to the eruption. Both Hohorita and Kiorota are situated on land owned by one of the constituent clans. With over 400 inhabitants, they face serious problems of factionalism. The government, which had an active hand in fostering them, had hoped they would solve basic problems of Orokaiva social fragmentation. In fact, one may almost say that the large consolidated village was a principal aim of government planning for the persons displaced by the eruption. Hence, it seems necessary to include consideration of this residential form in the present study.

Of the 12 months spent in the Territory of Papua, my wife and I lived in Orokaiva villages for more than 10 months, dividing the rest of the time between Port Moresby and the administrative centre of Popondetta. Most of the field period was spent in Sivepe, with three weeks in Inonda and five weeks in Hohorita. In Inonda we made use of a house previously used by the New Guinea Research Unit; in Sivepe a village house was built for us while at Hohorita we were squatting in an uncompleted village house--an unsatisfactory arrangement which accounts, in part, for the brevity of our stay. Fortunately, we had extremely competent research assistance at Hohorita, after we stopped residing there. The head teacher, Mr. Harold Heru, prepared extremely good genealogical records, showing residence of matrilateral and affinal kin as well as clan structure and residence.

The basic source of the material that follows are my own field notes. These are supplemented by government records, the publications on the Orokaiva and the eruption published by F. E. Williams, Reay, Belshaw, Keesing, Crocombe, Hogbin, Rimoldi, Waddell. I also collected tape recordings containing 50 basic documents in the Orokaiva language; transcriptions in Orokaiva and translations into English are available. A number of Europeans who were concerned with the administration of the temporary refugee camps were interviewed, including Dr. Gunther, Mr. F. Kaad, Mr. C. Searle, Mr. R. Hart and others too numerous to mention. Miss Nancy White, a mission teacher at Hohorita, apart from giving other help, put at my disposal a valuable collection of her diary notes, important letters written to her and Orokaiva texts collected at the Sasembata mission school in the years 1952 - 1953.

177 in its attitude to culture contact, is somewhat homogeneous, Inonda
195 is deeply split between a Christian and a Pagan faction, and it is the Christian faction which is involved in coffee growing, the cattle project, the government sponsored women's club and wage labour whereas outside contacts for the pagan faction are truly minimal.

177 The changes which have occurred in the pattern of outside
181 contacts in Sivepa between the eruption and the present all involved changes in ideology. This is true for the pattern of inter-village cooperation and the interaction with Papuan functionaries no less
[199] than for the trade-store movement. It is an ideology referred to by the Orokaivs as "iji eha," "the new day" and it carries with it an acceptance of Christianity, the objectives of the Local Government Councils and the tenets of economic development. This ideology is as readily expressed by the Christians of Inonda as it is by the people of Sivepa.

177 Not only is this ideology of European origin, but the new types of contact that are being made among Papuans can be traced back, in almost every instance, to white men's actions. Generally, the village man or woman has but a minimal direct contact with the white man and such direct contact as does occur is liable to involve a minimal communication of ideas. Because of the language barrier, an interpreter is, at the very least, required as intermediary
[191] between white man and Orokaiva. Simple, direct communications can be effectively made in Motu which most Orokaiva understand and which many Europeans speak to some extent. Modern circumstances, however, increasingly demand the communication of more complex messages than can be transmitted by that medium, as used at present. More commonly, Papuan members of formal organisations act as middlemen for more complex messages.

It seems best to describe at the outset the pattern as I observed it in Sivepa in 1966-7--the pattern in Inonda and other villages was very similar--and then compare this to the pattern of 1951 and the rather untypical situation in the evacuation camps.
[101] All white men are known by the collective appellation and reference term taupa, but the roles in which taupa are truly familiar to the Orokaiva are few. Most taupa are government servants, traders, missionaries, soldiers. In Sivepa the white government servants most frequently encountered were: the patrol officer, the agricultural officer, the magistrate, the advisory officer of the Higaturu council; higher officials stationed in Popondetta were mostly known by rumour. The head teacher of the local mission school and his wife were both taupa; everyone was familiar with taupa planters and storekeepers. An unusual and very highly respected taupa, indeed a man to whom one never heard the term taupa applied, so well liked was he, was the superintendent of the Saiho hospital who took part in the Christmas dance at Saiho in Orokaiva costume, together with his wife, and who was invited to village feasts at which he ate with

101 These so-called "mountain Orokaiva" have been described in considerable ethnographic detail by Williams.[2] Pioneer administrators considered them to be the most ferocious of New Guinea peoples. No tradition exists showing familiarity with vulcanism in the area, apart from one or two dubious hints in myth incident. The nearest volcanic outbreak occurred nearly a decade ago in the Tufi district, a considerable distance to the southeast. Mt. Lamington (5,634 ft.) with its irregular humps of old ash cones and its dense vegetation cover has always been regarded as being extinct. The Orokaiva worked their hamlets and gardens high up on the rich soil of its sprawling flanks, achieving perhaps the densest settlement patterns of any of the shifting "dry" cultivators in the New Guinea area.[3] They lacked any background conditioning to cushion the shock as did the whites who developed a Mission station, a Government coffee plantation, other "native" cooperative enterprises in the Sangara area, and, during the war, a mountain rest center which became the district headquarters at Higaturu.

The first eruption came on a Sunday morning after three anxious days of earth tremors during which official and Mission personnel hesitated to frighten the people by suggesting evacuation. The eruption had the classic Mont Pele pattern: an exploding gas cloud engulfed an area of about eight miles in every direction and then sucked back. Hot ash covered a very much larger area, and the rivers whose sources are around the peak—the Kumusi, Amboga, and others well known for bitter fighting during the war—became choked with ash flows. The Higatura and Sangara centers on the north side caught the full blast and were virtually flattened, as it was this side of the mountain which blew out. Almost 100 percent casualties occurred in the area engulfed by the gas cloud. Since the bodies were often in good-

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2. Williams, F. E., *Orokaiva Magic* (1928); *Orokaiva Society* (1930). The Orokaiva and their culture are also referred to extensively in Annual Reports of the Territory from 1890 on, particularly by Chinnery and Beaver in the 1914-15 and 1918-19 reports.

3. Williams speaks of the Lamington slopes as "thickly populated and with innumerable garden-clearings . . . one of the most fertile and beautiful in all Papua" (*Orokaiva Magic*, p. 110).

why were they so anxious to return home where they could no longer be instructed in its practices? The answer seems to lie in the land tenure problem, discussed later, which was reflecting fundamental structural changes in the society. But why was this problem passed over in silence in all the statements about the "new age" recorded for the period immediately after the eruption? The answer to this question may be mere speculation, but it is clear that by excluding land tenure from our analysis, we shall become the victims of our informants' own mystifications, which is all the more regrettable since, by 1966, Orokaiva ideologists had recognized the importance of the land tenure problem for the setting up of the "new age." Our final analysis is therefore based on an unconscious model which includes this factor.

THE EVENT AND ITS SETTING

On 21 January 1951, Mount Lamington, a mountain situated in the Northern District of Papua, was torn apart by what is technically known as a Pelean eruption. A paroxysmal explosion burst from the crater and produced a *nuée ardente* which completely devastated a surrounding area of 68 square miles (Taylor 1958:7).[a] Almost 4,000 people, mostly belonging to the Orokaiva-speaking group of tribes of the Northern District, were killed. The word "Orokaiva" is used here to designate speakers of the Orokaiva language, resident in an area roughly coinciding with the Popondetta, Sohe Popondetta, and Saiho census divisions (see map 1).[1] This area comprises the foothills of Mount Lamington and the alluvial plains to the north and east. The area is rather homogenous in culture, and dialect differences are minor. Destruction in this inner zone of devastation was almost complete. A further 22 square miles were partially devastated, and it was from this area that some 3,000 inhabitants were able to save themselves by running away from the *nuée ardente*. The population of the Mount Lamington foothills, within a radius of at least 10 miles from the crater, fled from their villages as the explosion threw stones over all the area, destroyed the administrative center at Higaturu, and blotted out the light of the sun.

It was at this point that the administration of the Territory of Papua intervened. Australian authorities sent in supplies for the

A [See Category 102, p. 303--Analyst]

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rather than security was the main motive. Villagers were able to use the land they had occupied before the eruption.

The Orokaiva case was therefore anomalous in a comparative study of community displacement. There was no new physical or social environment to which the Orokaiva had to adapt. There was, however, a very traumatic experience and a temporary displacement. Moreover, the eruption did permanently change some significant geographic features of the district: the network of roads, village sizes, village locations in relation to paved roads, the location of the administrative center and institutions like the hospital and mission. As these facts have been fully covered in my earlier report, in this chapter I treat them briefly and then turn to a somewhat broader but related question: How does a cataclysmic event such as this eruption (and the temporary relocations that followed) affect the structure of Orokaiva society?[8]

My research included three intensive studies of single villages. The relocated village on which the fullest data were collected was Sivepe, situated 7 miles from the crater, on fertile, well-watered, well-drained volcanic loam, with a population density of 180 persons per square mile. Like all the villages west of the crater, Sivepe suffered hardly any casualties but the people fled in panic and were accommodated in the evacuation camp at Ilimo, a few miles west of Kumusi River near the road to Kokoda. They stayed at the camp until May, after which two of the local clan groups returned home while the third was relocated in one of the large villages established along the main Buna–Kokoda road after the eruption.[9] This third clan group returned to Sivepe early in 1952. Sivepe was rebuilt less than 1 mile from the old site. The most important immediate consequence of the eruption, as far as Sivepe was concerned, was the establishment of a large mission complex at Sasembata, 1 mile away. With the assistance of surrounding villages, the mission built a large school, a large church, and a hospital. One reason for this development was the establishment, by the government, of a large village for victims of the eruption. This was built at Kongohambo (maximum population 900), a quarter mile from the mission station. The mission services remained after the Kongohambo evacuees had returned to their own areas shortly after 1953.

For Sivepe, therefore, the eruption led directly to two highly important event sequences: first at the evacuation camp; later in rela-

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tion to the mission station. The government had demonstrated in the most tangible way that it accepted broad responsibility for the people's welfare in a time of crisis and would act with great generosity in such circumstances. The mission, which likewise had established close relations with the people of Ilimo, had subsequently remained to develop those relations.

As a control group for the study, I used the small village of Inonda, 12 miles from the crater and outside the restricted zone. Inonda differed from Sivepe in that its population was never evacuated or relocated. It continued to use its own land. The comparison of Sivepe and Inonda thus provides a measure of the effects of actual relocation as distinct from other experiences the two villages had in common. In Inonda only one-fifth of the land is arable; none of it is as fertile as the volcanic loam of the Mount Lamington foothills; rainfall is lower than in Sivepe and so distributed that lengthy droughts are not uncommon. Drainage is inferior while population density is only ten persons per square mile.

Inonda acted as host for the population of Sewa village who fled their homes on the morning of the eruption. Among the fugitives was a mission teacher who set up a school in Inonda. When he was later transferred to another district, Inonda pleaded fervently and successfully to get him back. Today Sunday services are given by a lay preacher and children attend a mission school several miles away which teaches up to grade two.[19] Interaction with government and mission authorities was far less intensive at Inonda than at Sasembata.

The third village I studied was Hohorita (population 348), 7 miles from the volcano, with soil largely similar to Sivepe's, good rainfall, good drainage, and a population density of 135 persons per square mile. Hohorita is made up of the survivors of the Sangara tribe, once 4,000 strong, which was almost entirely wiped out by the eruption. The survivors were evacuated to camps along the coast and then allowed to return to the boundary of the restricted area, where they built a village called Irihambo. They were ordered to leave this village some years later (as it was situated on crown land intended for the settlement of Australian ex-servicemen) and then established Hohorita in 1957–1959. The Hohorita people, like other relocated groups, had had intensive contact with government and mission personnel. An unusually large number entered skilled occupations, partly because the San-

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1. In the Mount Lamington case, the institutional approach would produce results somewhat similar to Lessa's in his excellent paper "The Social Effects of Typhoon Ophelia (1960) on Ulithi" (1964). The major innovations over the last thirty years were due not to the eruption but to the Japanese invasion, the subsequent expulsion of the Japanese by Allied forces, the introduction of large-scale cash cropping, increased urban migration, and the development of officially supported indigenous political institutions.

   The exchange theory approach of Blau and Barth has been followed to some extent in the present essay, but as Garbett (170:225) remarks in the essay already referred to: "Unless one wants to treat situations as simply another kind of 'small group' in an extra-laboratory setting for the testing of propositions from exchange theory, one's findings have to be related to, and set in, a wider context presumably studied by other methods."
2. For semiological discussion on the Road Code, see Lévi-Strauss (1958:chap. 5) and Leach (1970:chap. 2).
3. As an illustration of connotative systems, Barthes (1964a) analyzes a full-color advertisement for grated cheese, spaghetti, and tomato paste and shows that the items in the picture are so displayed as to connote all the delights of a carefree life in sunny Italy where foods are sweet, fresh, unadulterated, and perfect in appearance.
4. The relationship between signifier and signified suggested here may not be peculiar to "the savage mind" but universal, as is suggested by Lacan (1966: 493–528).
5. One of the first useful studies of regional colonial macrosystems known to me in New Guinea ethnography is Burridge (1960), which indicates clearly the modalities of conflict and alliance in the Papuan–administration–missionary triangle. Extremely important also is Fredrik Barth's work on polyethnic systems (1969) and on forms of regional organization in New Guinea (1971).
6. The term "Pelean eruption" is applied to the type that occurred at Mount Pelée (St. Pierre, Martinique) in 1902. A large mass of ash is projected rapidly into the stratosphere to form an expanding mushroom-shaped cloud. The base of the column begins to expand rapidly as clouds of incandescent ash (the *nuée ardente*) avalanche down the slopes. The *nuée ardente* is lethal because of sudden damage to the respiratory system caused by inhaling hot (200°F) dust.
7. The reports written by these two scholars (Belshaw 1951; Keesing 1952) led to the inclusion of the case of the Mount Lamington Orokaiva in the project directed by H. G. Barnett and entitled "A Comparative Study of Cultural Change and Stability in Displaced Communities" (1961).
8. Here and throughout this essay I use the term "structure" in the sense of Lévi-Strauss (1958:chap. 15).
9. I have used British terminology in most of this essay as it seems hazardous to adopt American terms in a British-French conceptual framework. Where I use clan, American anthrolopologists would usually write "sib." The term "local clan group" refers to a coresident segment of a dispersed clan (or sib). A full discussion may be found in Schwimmer (1970a).

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10. Compare this with the school at Sasembata, which teaches to grade six.
11. A small band of Orokaiva captured European fugitives, including male and female missionaries, and handed them over to the Japanese. The members of this band came from the area east of Mount Lamington inhabited by what Williams called the Sauaha tribe.
12. Though the Sumbiripa cycle of myths was not noted by Williams, I feel confident it existed prior to 1951, partly on evidence given in Schwimmer (1969) and partly on the evidence of a myth recorded in Belshaw (1951).
13. For sources on Orokaiva leadership, see Reay (1953) and Schwimmer (1967).
14. The term "Waseta tribe" used by Williams is perhaps unfortunate, as I demonstrated elsewhere (Schwimmer 1969:49–53). It is used here for the sake of convenience to group together the people from the Waseta area, all of whom were quartered at Ilimo evacuation camp. The name "Waseta" is not used as a tribal name by Orokaiva; it denotes no more than the village where Williams happened to do his fieldwork.
15. See also Waddell and Krinks (1968:16, fn. 3). In the final section of this chapter, I argue that the geophysical explanation is important for anthropological analysis, since it foreshadows structural change in the Orokaiva cognitive system.
16. These two oppositions are, as I understand it, singled out for detailed study in most of the chapters in this comparative volume. Unfortunately, a more detailed discussion is impossible in this chapter. Transactions between government and people during the relocation process have been described fully in Schwimmer (1969), including the massive administration intervention in the evacuation camps, the changes of location of government and mission centers after the eruption, and the gradual widening of the scope of government and mission activities. In my earlier report, I also referred in detail to the manner in which the relation between whites and Papuans is mediated by Papuan mission teachers, village constables, and other functionaries. On an ideological level the entire 'new age' rhetoric discussed in this chapter may be regarded as a form of mediation between microsystem and macrosystem.

    With regard to boundary maintenance, empirical evidence is available in my earlier report about the relations between the evacuees and the people among whom they lived. At Ilimo something akin to traditional friendly host-guest relations were established. I stress in the present essay the ambiguity of the boundary maintenance patterns. There is an ideology advocating unity and there is increasing evidence of common action, especially in the context of formal organizations set up under the influence of administration and mission, while individual webs of intertribal relationships tend to become denser as a result of migration associated with schooling, employment, and so forth. At the same time, tribalism is still the underlying principle in most transactional contexts.
17. This does not contradict my earlier statement (1969:66) that there was a brief period when the evacuees feared the government would take their land. Kaad reported to me that this fear existed, and I do not doubt it. In

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Part III

Friendship and Kinship: An Attempt to Relate Two Anthropological Concepts[1]

5

Erik Schwimmer

THE PROBLEM OF A DEFINITION OF FRIENDSHIP

121 A universally applicable definition of friendship is difficult to arrive at. Nonetheless, the sentiments attached to the concept of friendship have, to anyone with anthropological experience in non-Western societies, the appearance of being universal. But even if the sentiments are universal, it is impossible to designate categories of persons, recognized in all cultures, between whom the sentiments of friendship normally prevail. The term 'friend' is, in many languages, non-existent or indistinguishable from 'kinsman.'

One may argue, as Paine has done (this volume, pp. 117–37), that friendship is a relationship found only in societies of a certain type. Thus, friendship would be personal and private and have characteristics such as autonomy, unpredictability, and terminality. Paine argues that societies which have friendship in this sense tend to be technologically advanced and complex in their socio-political structures. While one can find no scholarly objections to this approach, it leaves unsolved the question which concerns me in this essay: can we find a definition of friendship such that the symbolic idioms in which the sentiments of friendship are expressed in all cultures can be comparatively analysed?

Clearly, we cannot do so directly as these symbolic idioms are part of a vast variety of classificatory systems found in different societies and the place of friendship in these systems depends on their overall arrangement. We can, however, start from a universal type of association which is initiated by mutual attraction and which is maintained by the exchange of intrinsic benefits (benefits arising solely or largely out of the association itself). We can then inquire whether there is a universal relation between this phenom-

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1 This essay is based on research carried out in the Northern District of Papua in 1966–7 and 1970 (with the financial help of the Canada Council and of the *Project for the Comparative Study of Cultural Change and Stability in Displaced Communities in the Pacific*, directed by Dr. H. G. Barnett). My wife, Ziska, helped in data collection, especially for the section on *jao* relationships. Dr. T. F. S. McFeat and Mr. A. Tanner read the manuscript and made useful suggestions.

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through the close brother-sister links that endure after marriage and that are expressed through strong links between sister's son and mother's brother. Genealogies are brief, but the Orokaiva classify themselves into supposedly agnatic units by grouping together persons who respect the same plant emblem which is treated as an ancestor. Clans are dispersed, and although local clan groups continue relations after dispersal, they soon begin to intermarry.

In the Orokaiva *philia* system, the distinction consanguine/non-consanguine occurs, but only feebly. Far more important are three cross-cutting categories which may be briefly summarized as follows: 1) the cooperative alliance, centred on sibling and parental bonds; 2) the competitive group exchange system, centred on relations with affines and uterines; 3) the total interdependence relations existing between spouses and cross-cousins.

Previously (Schwimmer, 1970a; 1970b; 1972), I have shown that the Orokaiva kinship universe may be viewed as made up of these three main components. In particular, the symbolization of the conjugal bond does not coincide with either the cooperative or the competitive mode, but is expressed in the symbiosis of plants (such as coconut and areca) which exhibit both binary opposition and total interdependence relationships. The cross-cousin bond has the same components and, at least in ideology, a comparable strength.

In this essay, I shall present data on the friendship universe and show that Orokaiva have institutionalized friendships of several types, some of which are hereditary. I hope to show that each type of friendship corresponds to one of the basic categories of the kin universe. Thus, if my argument is correct, the same categories would hold for the entire *philia* universe of which kinship and friendship would become homomorphous components. Friendship would not have one specific idiom, but a set of idioms which have already been stated in *philia* ideology and symbolized in the religio-philosophic system. Friendship thus becomes a dynamic dimension of kinship. Superficially, it looks like a minor supplement of the kinship system, but it is essential in filling ever-widening lacunae in the kinship system and preventing progressive entropy.

Orokaiva Kin and Friendship Idioms

Between the districts where the data were collected, there are slight differences in dialect (Hohorita in the Sangara district and Sivepe in the Sasembata district), including the way kin and friendship terms are used. The Sangara and Sasembata people are tribe-like groups, hereditary enemies, with seemingly similar social organizations.

Provisionally, it is best to regard the Sangara and Sasembata nomenclatures as variants of the same system. I shall not deal here with intergenerational terminology since it is mainly used in a familial context, whereas

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phasis on the "logic of the concrete," is equally insistent on precision in matters of material culture, because in the analysis of symbols it often happens that important distinctions are made between species, varieties, subvarieties, methods of food preparation, of the manufacture of objects, and the like.

Quite apart from this concern with meticulous classification, componential analysis, and lexical-semantic relations, it seems to me profitable to turn to the semiotics of material objects, especially if the field of connotation and denotation crosscuts numerous levels of conceptualization. There are some objects in every culture which may almost be regarded as "total phenomena" in the Maussian sense: they are at once of economic value, expressive of social relations, ploys in a political strategy, and religious symbols. They also appear as the subjects of myths. As a general rule, they are utilized as objects of exchange, which explains why they are as multivalent as exchange itself.

At least part of their significance in anthropology lies in their capability to link the levels of myth and ritual. The best way of explaining what I mean by this suggestion is to give some instances of semiotic analyses of objects which may be called "total phenomena," and include in these analyses the levels of both myth and ritual. Their role as "logical operators" linking these levels will then become obvious. Though my argument draws on a wide range of structuralist literature, the most important sources are Lévi-Strauss' introduction to Mauss' *Sociologie et anthropologie* (Lévi-Strauss 1950) and the Finale of *L'Homme Nu* (1971).

The ethnographic data are from the Orokaiva, a tribe in the northern district of Papua, where I did fieldwork for one year in 1966–1967 and for another three months in 1970.[1] The Orokaiva live on the fertile slopes of Mount Lamington. They are swidden agriculturists, whose main crop is taro, while yam, sweet potato, sago, sugar cane, coconut, and numerous other nuts, as well as latterly German taro are subsidiary crops. Areca grows in most of the district. The population of 25,000 is very dense on the actual slopes of the volcano, sparser in the riverine areas. The kinship system is patrilineal, with a strong bilateral emphasis. I have given a detailed description of the various forms of

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NOTES

1. The classic works on the Orokaiva are Williams (1928, 1930). Useful studies in Orokaiva swidden agriculture are Crocombe and Hogbin (1963), Rimoldi (1966), Krinks and Waddell (1968). For my own studies on Orokaiva culture, see Schwimmer (1967, 1969, 1972, 1974, and n.d.).

2. Most of the present study was done in Paris in 1970 and distributed in mimeographed form by the Laboratoire d'Anthropologie Sociale under the title "The Ideology of Exchange." I should like to express my gratitude to Professor Lévi-Strauss, Drs. Godelier and Pouillon, and the other members of the staff for their hospitality and encouragement. My wife, Mrs. Ziska Schwimmer, worked with me in the field on the collection of data and later with their analysis.

3. "A principle of gradation by which elements are related to the whole of which they form part."

4. Professor Lévi-Strauss suggested to me a most interesting relationship between this myth and the Polynesian Maui cycle. Maui was killed by a "Woman of Darkness," Maori: Hinenuiotepo.

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Conclusion

This paper has been an exercise in semiotic anthropology. Semiotics has always been a part of anthropology (cf. Schwimmer 1977b), but we are becoming more conscious about it and borrowing some methods. We therefore set up a domain, consisting of two sets of oppositions (use value/exchange value; identification/alienation) which seemed to be in some need of clarification. We broke the domain down to its modalities and as a result, I hope, clarified a number of Orokaiva concepts of 'work' – all a little unexpected, probably, and certainly not clear to myself until I began analysis in the form described here. Moreover, the two oppositions that formed the frame have become a little clearer too.

Semiotic anthropology has a limited role, but this role is precisely what has been attempted here: clarifying concepts. I might have made up an abstract model from the modalities and the categories but refrained as it would have added little. I have tried to make the connections visible: semiotics does not compose master schemes, it decomposes them.

Notes

1. Fieldwork done in the Northern Province of Papua New Guinea (1966–67, 1970, 1973) and used as basis for the present discussion was supported by grants from the Canada Council.
2. This statement was made to me by Councillor Colin in a taped oration held in Torogota in 1966. His words: '*Iji aramiko ambo ainge esoro. Amina pure mo umbae. Amora pure re Keriso na Ikena umbasi ea avo.*'
3. Melanesian time allocation studies have recently been the subject of a detailed economic analysis (Kirkpatrick 1977). It is of interest that the field studies of time allocation which were given the highest "subjective rating" (ibid. Table 6.1) were Waddell (1972) and Waddell and Krinks (1968). The latter study was conducted in the Orokaiva villages of Ionda and Sivepe, where I myself did intensive research some years later, on a different subject. As I have already published a detailed commentary on the Waddell and Krinks study (Schwimmer 1969: 144–152), I say little about it here. It is, however, highly relevant to a conceptual study such as the present one.
4. M. Panoff reports that *kuma*, in the sense of subsistence activities, took up an average of four hours per day among the Maenge. He mentions no cash crops. Kirkpatrick's statistics (1977, Table 6.3) show that the mean time spent per man on all agricultural tasks in nine Melanesian villages is about 22 hours per week. One may thus assume that Panoff's figure refers to all tasks making up agricultural activity in Melanesian time allocation studies. But what is here meant by 'activity'? As we show in the present article, it includes not only the main and ancillary agricultural